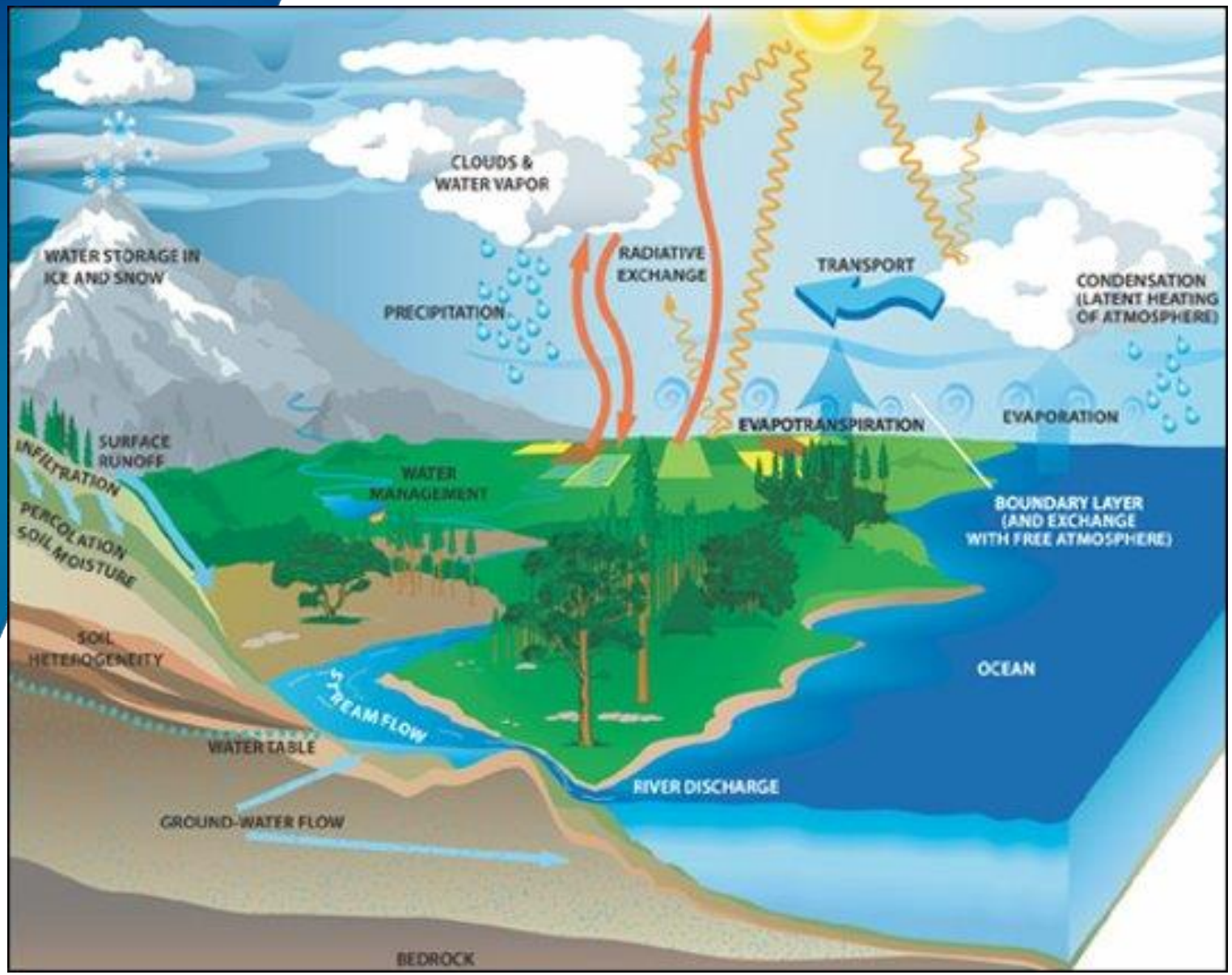
Board of County Commission | October 22, 2024

COMMUNITY SERVICES DEPARTMENT

Stormwater Infrastructure & July Flash Flood in Hidden Valley

Storm water vs. flood water



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Storm water vs flood water

- What is storm water?
  - Stormwater is rain and snowmelt that lands on a parcel. A portion of the water absorbs into the ground and some of it may become groundwater. The rest of the water runs off and flows towards low areas, down drainages, streets, and natural conveyances, entering the Truckee River in many cases.
- What is flood water?
  - Flood water or a flash flood, can be generally defined as a significant volume of water coming from an upstream contributing area that inundates areas that are usually dry, resulting in damage to infrastructure, and depositing significant volumes of soil and debris.
- Washoe County manages storm water to help avoid downstream flooding, soil erosion, turbidity, and to help mitigate contaminants from entering streams, drainages, and ultimately the Truckee River.

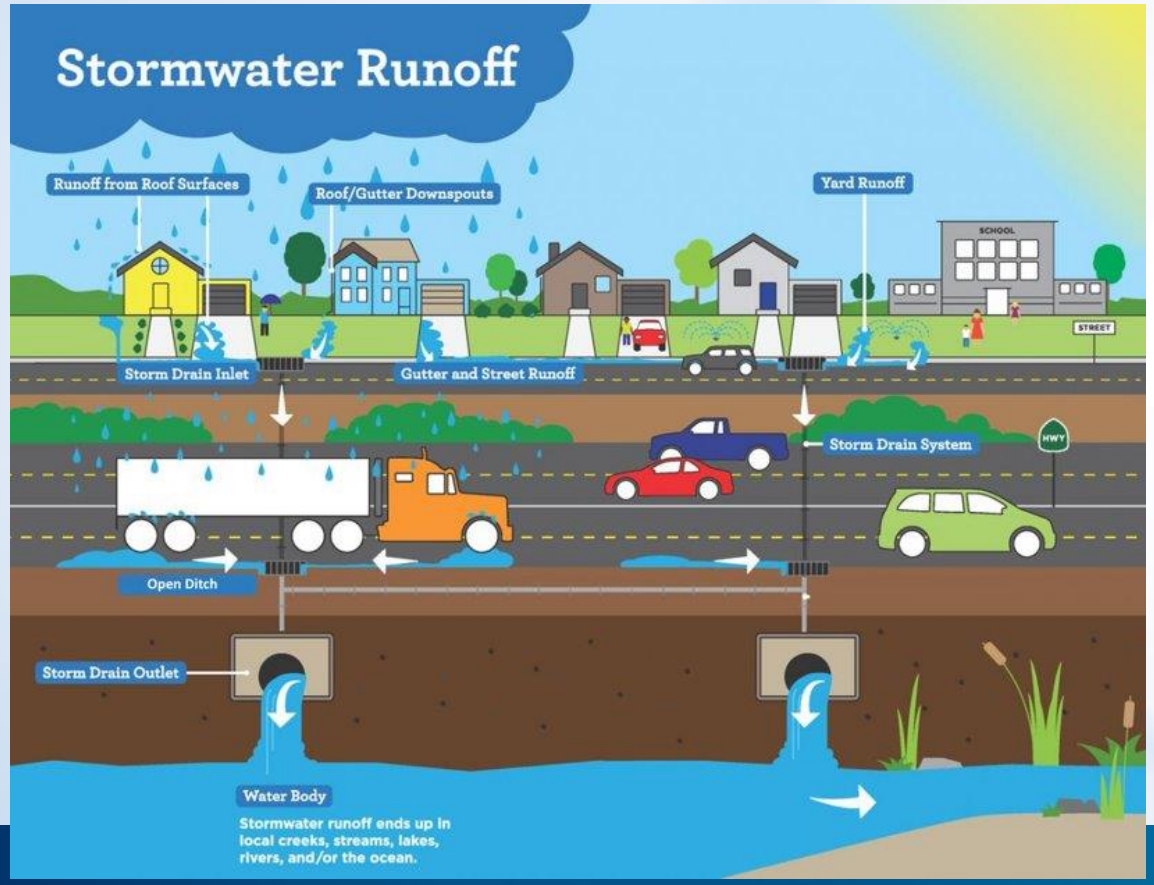
Storm water vs flood water

- Washoe County manages FEMA defined flood plains and flood ways, following federal requirements which have been adopted into WC Code.
- Design standards;
  - Washoe County Development Code, Article 110.420
  - Truckee Meadows Regional Drainage Manual
  - Best Practice Practices/Standard of Care
- Design standards have evolved over time, taking advantage of better topography, soil conditions, modeling, and previous event data.
- What are FEMA designated flood zones?
  - Flood zones are mapped risk areas and are used to evaluate the conditions allowing for future development

Storm water vs flood water

- What can I do to protect my property?
  - Use flood resistant building materials
  - Perpetuate natural drainages
  - Don’t build within natural drainages
  - Elevation certificate
  - Support Washoe County's engagement in FEMA's Community Rating System (CRS) Program – helps reduce everyone's flood insurance costs
  - Purchase flood insurance, including building coverage, contents coverage, or both
- Washoe County works with other agencies and groups such as the Truckee River Flood Management Authority, State Flood Plain Management Office, the Cities of Reno and Sparks, Nevada Silver Jackets, to help educate and inform residents regarding flood risks.
  - Ex. Washoe County and the City of Reno jointly are remapping several waters in the South Truckee Meadows.
  - Following FEMA processes, Washoe County is pursuing a remap of areas within Lemmon Valley.

Stormwater Infrastructure Asset Management



Stormwater Asset Maintenance

Open Ditch and Pipe

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Stormwater Asset Maintenance

Curb, Gutter, Catch Basin and Pipe

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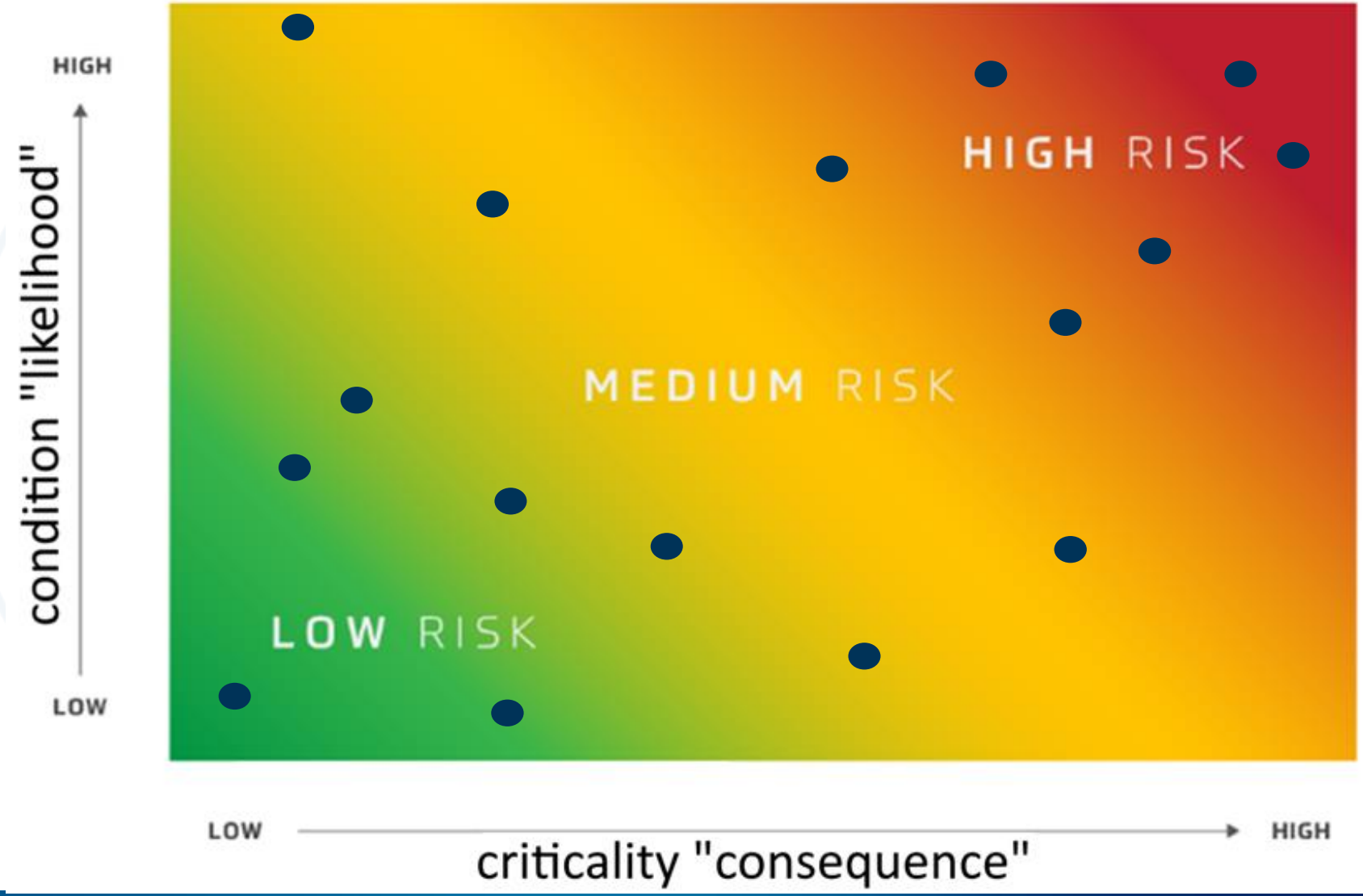
Prioritizing Work



Hidden Vall Flashflood Response

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NWS Reno @NWSReno · Jul 21

Thunderstorms are possible again this afternoon and evening . Potential hazards include: lightning fire starts, gusty outflow winds 40-50 mph, hail, and brief heavy rainfall. Best chances for heavy rainfall will remain south of US-50. Localized flooding possible near burn scars.

Hidden Valley Flash Flood

- Sunday, July 21, 2024
  - Two thunderstorm outflows collided
  - Radar signatures – high rainfall rates and 1 inch hail near Hidden Valley over steep terrain
  - A Flood Advisory issued at 5:27pm followed by Severe Thunderstorm Warning at 5:30pm
  - ~2” of precipitation in less than 1 hour - Storm odds of 0.5% chance of occurring
  - Precipitation caused a debris-laden flood delivering massive quantities of mud and rock
  - Exceeded stormwater infrastructure capacity very quickly

CSD Flood Response

- Washoe County Roads, Parks and Utilities Crew responded immediately – "All Hands On Deck"
- Priorities:
  - Life Safety
  - Ingress/Egress for residents
  - Re-establishment of critical infrastructure – protection of public and private property
  - Clean-up and debris removal
- Response summary
  - Roads Crew – 3,377 labor hours, $167,074 labor cost, $122,461 equipment cost
  - Contracted work - $697,230 (to date) – primarily Hidden Valley Regional Park
  - Total will exceed $1,000,000

Thank you

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